

patterns,

wherein for each sub-beam a deflection unit is provided, said deflection unit being positioned within the multibeam optical system and adapted to [correct individual imaging aberrations of the respective sub-beam with respect to the desired target position and/or] position the sub-beam during a writing process on the substrate surface for independently writing a pattern which is different from patterns of other sub-beams, and

wherein for each sub-beam the respective aperture of the first of the at least one aperture plate defines the size and shape of the sub-beam cross-section and the multibeam optical system produces an image of said aperture on the substrate surface.

REMARKS

The Examiner's rejection of claim 1 under 35 U.S.C. § 102 for being anticipated by the Ando et al. U.S. Patent No. 4,851,097, and claims 2, 13, 14, 22 and 23 under 35 U.S.C. § 103 for being unpatentable over, Ando et al. in view of the Nakasugi U.S. Patent No. 5,933,211 as these rejections may be attempted to be applied to the amended claims, is respectfully traversed.

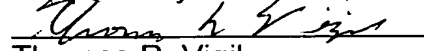
In support of this traverse, applicant submits that amended claim 1 specifies the ability to write different patterns with the sub-beams and that amended claim 1 is now delimited from the prior art by a function which is not disclosed in the prior art.

Note that while Ando et al. may split a beam into sub-beams, Ando et al. does not write patterns with sub-beams.

Likewise, Nakasugi does not write patterns with sub-beams. It is believed that Nakasugi is only cited for its teaching of a multi-beam lithography apparatus comprising a collimator.

In summary, applicants submit that once the amended claim 1 is entered in the application the application will be in condition for allowance. An early and favorable action to that end is requested.

Respectfully submitted,



Thomas R. Vigil

Reg. No. 24,542

Dated: November 12, 2001.

VIGIL & ASSOCIATES
836 South Northwest Highway
Barrington, ILLINOIS 60010
Telephone: (847) 382-6500
Facsimile: (847) 382-6895.



Clean Copy of Claim 1 Mailed to the Office On November 12, 2001

CLAIMS

WE CLAIM:

1. (Twice amended) An apparatus for multibeam lithography by means of electrically charged particles, comprising an illumination system having a particle source, the illumination system producing an illuminating beam of said electrically charged particles, and a multibeam optical system positioned after the illumination system as seen in the direction of the beam, said multibeam optical system comprising at least one aperture plate having an array of a plurality of apertures to form a plurality of sub-beams, wherein the multibeam optical system focuses the sub-beams onto the surface of a substrate for simultaneously writing a plurality of different patterns,

wherein for each sub-beam a deflection unit is provided, said deflection unit being positioned within the multibeam optical system and adapted to position the sub-beam during a writing process on the substrate surface for independently writing a pattern which is different from patterns of other sub-beams, and

wherein for each sub-beam the respective aperture of the first of the at least one aperture plate defines the size and shape of the sub-beam cross-section and the multibeam optical system produces an image of said aperture on the substrate surface.

RECEIVED
FEB 11 2002
TECHNOLOGY CENTER 2800